

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) In an instant messaging (IM) system comprising: an IM server having a plurality of clients, one or more of the clients with IM client applications of the same types [[or]]and one or more of the clients with IM client applications of different types, a ~~remote~~ Short Message Service Center (SMSC) server to which at least one of the clients is connected, a computer network interconnecting the IM server and the ~~remote~~SMSC server to provide IM communications therebetween, wherein the ~~remote~~SMSC server utilises a sequential message handshaking protocol for transmitting and receiving messages to and from the IM server, whereby a confirmation of the successful transmission or receipt of a message is required to be received or sent by said ~~remote~~SMSC server before a subsequent message is able to be transmitted or received, and wherein that portion of the computer network interfaced with the IM server is prone to latency and instability; the computer network including:

a buffer server interconnected with the ~~remote~~SMSC server using a sequential message handshaking protocol corresponding to that used by the ~~remote~~SMSC server, wherein the interconnection provides for the communication of messages between the buffer server and the ~~remote~~SMSC server in steady, timed flows with minimal latency and connection disruptions;

said buffer server also being interconnected with the IM server using a protocol compatible therewith in a manner where message handshaking is not required to be performed

sequentially and thus accommodate higher latency and instability problems with the computer network therebetween; ~~and~~

~~— wherein said buffer server is connected between the computer network and the remote server so as to maximise message throughput.~~

2. (currently amended) An instant messaging (IM) system comprising:

an IM server having a plurality of clients, one or more of the clients with IM client applications of the same types ~~[[or]]~~ and one or more of the clients with IM client applications of different types;

a ~~remote~~ Short Message Service Center (SMSC) server to which at least one of said clients is connected;

a computer network interconnecting said IM server and said ~~remote~~ SMSC server to provide IM communications therebetween and wherein that portion of the computer network interfaced with the IM server is prone to latency and instability;

said ~~remote~~ SMSC server utilising a sequential message handshaking protocol for transmitting and receiving messages to and from the IM server, whereby a confirmation of the successful transmission or receipt of a message is required to be received or sent by said ~~remote~~ SMSC server before a subsequent message is able to be transmitted or received;

a buffer server interconnected with said ~~remote~~ SMSC server using a sequential message handshaking protocol corresponding to that used by said ~~remote~~ SMSC server, the interconnection providing for the communication of messages between said buffer server and said ~~remote~~ SMSC server in steady, timed flows with minimal latency and connection disruptions;

said buffer server also being interconnected with the IM server using a protocol compatible therewith in a manner where message handshaking is not required to be performed sequentially to accommodate higher latency and instability of the computer network therebetween; and

~~—— said buffer server being connected between the computer network and said remote server so as to maximize message throughput.~~

3. (currently amended) The invention as claimed in claim 1 or 2, wherein the buffer server is substantially co-located with the SMSC server, and connected thereto via a direct electronic link ~~to the remote server~~ so as to ensure the communication of messages between the buffer server and the ~~remote~~SMSC server in steady, timed flows with minimal latency and connection disruptions.

4. (currently amended) The invention as claimed in claim 1 or 2, wherein if the ~~remote~~SMSC server is located in a highly reliable internet exchange with a highly reliable internet infrastructure, the buffer server is connected via the highly reliable internet exchange and infrastructure to the ~~remote~~SMSC server.

5. (currently amended) The invention as claimed in claim 1 or 2, wherein said ~~remote~~SMSC server is an SMSC server of a Global System for Mobile communications (GSM) network and said client types connected to the SMSC server have Short Messaging Service (SMS) capability that is controlled and managed by said SMSC server to provide for SMS there between and IM between the SMSC server and the IM server.

6. (currently amended) The invention as claimed in claim 1 or 2, wherein said sequential message handshaking protocol is the Computer Interface to Message Distribution 2 protocol (CIMD2).

7. (previously presented) The invention as claimed in claim 1 or 2, wherein said computer network interconnecting said IM server and said buffer server is the internet.

8. (original) The invention as claimed in claim 7, wherein the IM server is located within a tier 1 internet exchange.

9. (currently amended) The invention as claimed in claim 1 or 2, wherein the IM server is interconnected to a plurality of ~~remote~~SMSC servers via the computer network, each ~~remote~~SMSC server utilising a sequential message handshaking protocol for transmitting and receiving messages with the IM server, whereby said buffer server is associated with and dedicated to each ~~remote~~SMSC server.

10. (currently amended) The invention as claimed in claim 1 or 2, wherein the messages are communicated as[[in]] streaming data between said buffer server and the ~~remote~~SMSC server in well-defined time increments or cycles or sporadically depending on when the messages become available to send.

11. (currently amended) The invention as claimed in claim 1 or 2, wherein the buffer server has sufficient memory to buffer up to 255 instant messages received from the ~~remote~~SMSC server to accommodate latency and instability problems associated with the computer network connection to the IM server.

12. (currently amended) The invention as claimed in claim 1 or 2, wherein the IM server is provided with a communication buffer mirrored to the buffer of said buffer server of the ~~remote~~SMSC server and wherein the buffer server has sufficient memory to buffer up to 255 instant messages received from the communication buffer to accommodate different communication speeds between the buffer server and the ~~remote~~SMSC server.

13. (currently amended) The invention as claimed in claim 1 or 2, wherein the IM server is provided with a communication buffer mirrored to the buffer of said buffer server of the ~~remote~~SMSC server, and each buffer comprises a circular array to contain the messages currently being processed by the instant messaging system at any one time, and wherein a plurality of statuses are recorded against each message to indicate its particular stage of communication between the IM server and the ~~remote~~SMSC server.

14. (currently amended) The invention as claimed in claim 1 or 2, wherein the IM server is provided with a communication buffer mirrored to the buffer of said buffer server of the ~~remote~~SMSC server, and each said buffer is provided with synchronization means to reconstruct messages that may have been lost in transit between the buffers as a result of an extended interruption to the computer network linking the same.

15. (previously presented) The invention as claimed in claim 13, wherein each said buffer is provided with synchronization means to reconstruct messages that may have been lost in transit between the buffers as a result of an extended interruption to the computer network linking the same, and wherein said synchronization means reconstructs messages from said circular array having regard to the statuses of the current messages being processed by the instant messaging system.

16. (canceled)

17. (currently amended) A method for instant messaging (IM) between a plurality of clients connected to a centralised IM server, wherein one or more of the clients use an IM system different than one or more other of said clients, one client having an IM application provided via a remote network connected to the IM server via a computer network and a ~~remote~~ Short Message Service Center (SMSC) server, and the ~~remote~~ SMSC server utilising a sequential message handshaking protocol for transmitting and receiving messages to and from the IM server through a buffer server, whereby a confirmation of the successful transmission or receipt of a message is required to be received or sent by said ~~remote~~ SMSC server before a subsequent message is able to be transmitted or received and wherein that portion of the computer network interfaced with the IM server to the buffer server is prone to latency and instability; the method comprising:

buffering communications with that portion of the computer network interfaced with the ~~remote~~ SMSC server and using a sequential handshaking protocol corresponding to that

used by the ~~remote~~SMSC server, so that the communication of messages with the ~~remote~~SMSC server is provided in steady, timed flows with minimal latency and connection disruptions;

simultaneously buffering communications with that portion of the computer network interfaced with the IM server using a communication protocol compatible therewith in a manner where message handshaking is not required to be performed sequentially thereby accommodating higher latency and instability that may be associated with that portion of the computer network; and

performing the buffering in a manner so as to maximise message throughput.

18. (currently amended) A method as claimed in claim 17, wherein the buffering is performed via a direct electronic link to the ~~remote~~SMSC server, where the SMSC server is substantially co-located with the buffer server, so as to ensure the communication of messages between the buffer server and the ~~remote~~SMSC server in steady, timed flows with minimal latency and connection disruptions.

19. (currently amended) A method as claimed in claim 17, wherein if the remote network is located in a highly reliable internet exchange with a highly reliable internet infrastructure, the buffering may be performed ~~in close proximity to the remote server and~~ via the highly reliable internet exchange and infrastructure to the ~~remote~~SMSC server.

20. (canceled)